

5,603,248



# The United States of America



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*Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.*

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## United States Patent

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*Bence Lehman*

Commissioner of Patents and Trademarks

*Danah Morton*

Attest



US005603248A

**United States Patent** [19]

Eggert et al.

[11] **Patent Number:** **5,603,248**[45] **Date of Patent:** **\*Feb. 18, 1997**[54] **MAGNETIC BIT HOLDER AND HAND TOOL  
INCORPORATED SAME**[75] **Inventors:** Daniel M. Eggert; Frank Mikic, both  
of Kenosha, Wis.[73] **Assignee:** Snap-on Technologies, Inc., Crystal  
Lake, Ill.[\*] **Notice:** The term of this patent shall not extend  
beyond the expiration date of Pat. No.  
5,577,426.[21] **Appl. No.:** 593,396[22] **Filed:** Jan. 29, 1996**Related U.S. Application Data**

[62] Division of Ser. No. 335,992, Nov. 8, 1994.

[51] **Int. Cl.<sup>6</sup>** ..... **B25B 13/02**[52] **U.S. Cl.** ..... **81/438; 81/125; 81/13**[58] **Field of Search** ..... 81/125, 13, 121.1,  
81/438, 439, 180.1[56] **References Cited****U.S. PATENT DOCUMENTS**

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[57] **ABSTRACT**

A hand tool has an elongated shank with a handle at one end and a bit holder at the other end, the bit holder including a cylindrical body having a distal end surface and an axis, the body having an axial bore formed in the end surface of non-circular transverse cross section and terminating at an inner end surface. A neodymium permanent magnet is freely received in the bore and retained against the inner end surface by a thin circular retainer, formed of metal or plastic, which is interference-fitted in the bore. Both flat, disk-like and concave, bowl-shaped retainers are disclosed. A shock-absorbing cushion may be disposed between the magnet and the inner end surface of the bore. A bit formed of magnetizable material is mateably received in a socket portion of the bore and retained in place by the magnet. The portion of the bore receiving the magnet may have a different cross section from the socket portion. The magnet may be disposed in an encapsulation which interference fits in the bore.

**16 Claims, 1 Drawing Sheet**